AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method of correcting for timing jitter of an optical data pulse in an optical transmission system, the method including:

i) generating a chirped pulse containing a spread of wavelengths;

ii) applying the chirped pulse to one input ~~(4)~~ of an optical AND gate ~~(10)~~ in synchronism with the unjittered arrival time of the data pulse;

iii) applying the optical data pulse to a second input ~~(2)~~ of the optical AND gate to trigger the AND gate and to produce at the output ~~(6)~~ of the AND gate ~~(10)~~ an output optical pulse having a wavelength determined by the amount of jitter experienced by the data pulse with respect to the unjittered arrival time; and thereafter

(iv) passing the optical output pulse through a suitable optically dispersive medium ~~(14)~~ so that the output pulse is correctly retimed to compensate for the jitter of the optical data pulse.

2. (currently amended) A method of correcting for timing jitter of an optical data pulse in an optical transmission system, the method comprising:

i) generating a chirped pulse containing a spread of wavelengths;

ii) applying the chirped pulse to one input of an optical AND gate in synchronism with the unjittered arrival time of the data pulse;

iii) applying the optical data pulse to a second input of the optical AND gate to trigger the AND gate and to produce at the output of the AND gate an output optical pulse having a wavelength determined by the amount of jitter experienced by the data pulse with respect to the unjittered arrival time; and thereafter

(iv) passing the optical output pulse through a suitable optically dispersive medium so that the output pulse is correctly retimed to compensate for the jitter of the optical data pulse;

~~A method as claimed in claim 1,~~ wherein the chirped optical pulse is one of a stream of pulses, and wherein the data pulse is one of a clocked stream of data pulses, the stream of chirped pulses being synchronized with the clock of the data pulse stream.

3. (currently amended) A method of correcting for timing jitter of optical pulses in an optical transmission system, which method includes using the optical pulses as optical trigger pulses to trigger an optical AND gate ~~(10)~~, which also receives chirped optical pulses, to produce output optical pulses having a wavelength determined by the amount of jitter in the respective optical trigger pulse, and thereafter passing the optical output pulses through an optically

dispersive medium ~~(14)~~, so that the different wavelength output pulses are temporally shifted in accordance with their wavelength, so that after passage through the dispersive medium ~~(14)~~ the output pulses are correctly retimed.

4. (previously presented) A method as claimed in claim 2, wherein said chirped pulses have a duration T, and said wavelength of said chirped pulses varies in a predetermined monotonic manner over said duration T of said chirped pulses.

5. (previously presented) A method as claimed in claim 2, wherein if the duration of the chirped pulses is T, the data rate of the chirped pulses is 1/T.

6. (currently amended) A device for correcting timing jitter of optical pulses in an optical transmission system, said device including:

an optical AND gate ~~(10)~~ having an output and first ~~(4)~~ and second ~~(2)~~ inputs, the first input of the AND gate ~~(10)~~ being connected to a source of chirped optical pulses ~~(32)~~, wherein when one of said optical pulses is received at the second input ~~(2)~~ as an optical trigger pulse while one of the chirped pulses is present at the first input ~~(4)~~, the AND gate ~~(10)~~ is triggered to produce an output optical pulse whose wavelength is determined by the amount of jitter in the optical

trigger pulse~~, said device further including~~; and

an optically dispersive medium ~~(14)~~ having a dispersion profile appropriate for the wavelength profile of said chirped pulses, through which said output pulses pass, so that different wavelength output pulses are temporally shifted in accordance with their wavelength, so that after passage through the dispersive medium said output pulses are correctly retimed in order to correct for the timing jitter.

7. (currently amended) A device for correcting timing jitter of optical pulses in an optical transmission system and producing regenerated pulses, said device comprising:

an optical AND gate having an output and first and second inputs, the first input of the AND gate being connected to a source of chirped optical pulses, wherein when one of said optical pulses is received at the second input as an optical trigger pulse while one of the chirped pulses is present at the first input, the AND gate is triggered to produce an output optical pulse whose wavelength is determined by the amount of jitter in the optical trigger pulse;

an optically dispersive medium having a dispersion profile appropriate for the wavelength profile of said chirped pulses, through which said output pulses pass, so that different wavelength output pulses are temporally shifted in accordance with their wavelength, so that after passage through the dispersive

medium said output pulses are correctly retimed in order to correct for the timing jitter; and

~~A regenerator including a device according to claim 6, including:~~

a second optical AND gate ~~(42)~~ disposed to receive said output pulses and local clock pulses, wherein said AND gate ~~(42)~~ is arranged so that said output pulses operates on said local clock pulses to produce regenerated pulses having a wavelength determined by said local clock pulse and independent of the wavelength of the pulse received at the second AND gate ~~(42)~~.

8. (currently amended) ~~Use of~~ A method of using a device ~~as claimed in claim 7~~ to correct for jitter suffered by optical pulses~~.~~ in an optical transmission system, the device including an optical AND gate having an output and first and second inputs, the first input of the AND gate being connected to a source of chirped optical pulses, the method comprising:

receiving one of the optical pulses at the second input as an optical trigger pulse while one of the chirped pulses is present at the first input to trigger the AND gate to produce an output optical pulse whose wavelength is determined by the amount of jitter in the optical trigger pulse;

passing the output pulses through an optically dispersive medium having a dispersion profile appropriate for the wavelength profile of the chirped pulses so that different wavelength output pulses are temporally shifted in accordance with

their wavelength so that after passage through the dispersive medium the output pulses are correctly retimed in order to correct for the timing jitter;

receiving the output pulses and local clock pulses in a second optical AND gate so that the output pulses operates on the local clock pulses to produce regenerated pulses having a wavelength determined by the local clock pulse and independent of the wavelength of the pulse received at the second AND gate.

9. (new) A method as claimed in claim 3, wherein said chirped pulses have a duration T, and said wavelength of said chirped pulses varies in a predetermined monotonic manner over said duration T of said chirped pulses.

10. (new) A method as claimed in claim 3, wherein if the duration of the chirped pulses is T, the data rate of the chirped pulses is 1/T.

11. (new) A device as in claim 6, wherein the chirped optical pulse is one of a stream of pulses, and wherein the optical pulses is a clocked stream of data pulses, the stream of chirped pulses being synchronized with the clock of the data pulses.

12. (new) A device as in claim 11, wherein said chirped pulses

have a duration T, and said wavelength of said chirped pulses varies in a predetermined monotonic manner over said duration T of said chirped pulses.

13. (new) A device as in claim 11, wherein if the duration of the chirped pulses is T, the data rate of the chirped pulses is 1/T.